

Application No.: 10/725,339

REMARKS

Introduction

In response to the Office Action dated August 6, 2008, Applicants have amended the specification, the drawings, and claims 35 and 36. Support for amended Fig. 1 is found in, for example, pg. 12, line 20 – pg. 16, line 19 of the originally filed specification. Support for amended Fig. 2 is found in, for example, pg. 16, line 21 – pg. 21, line 9 of the originally filed specification. Support for amended Fig. 3 is found in, for example, pg. 21, line 11 – pg. 25, line 10 of the originally filed specification. Support for amended claims 35 and 36 is found in, for example, Fig. 1 and pg. 12, line 20 – pg. 16, line 19 of the originally filed specification. Care has been taken to avoid the introduction of new matter. Claims 37-51 have been withdrawn. In view of the foregoing amendments and the following remarks, Applicants respectfully submit that all pending claims are in condition for allowance.

Drawings

The drawings were objected to failing to comply with 37 C.F.R. 1.83(a) because the drawings must show every feature of the invention specified in the claims, specifically the second plate including all of the claimed parts thereof including the oxidizer gas channels, the heat medium channel, a heat medium inlet header, a heat medium outlet header, water channel, and a gas inlet header must be shown or the features cancelled from the claims.

Further, the Examiner contends that the drawings are objected to because Fig. 1 includes numerals, such as, 4 and 5 that are features of the second plate. Fig. 1 is directed only to the first plate as pages 11-16 of the specification recite and thus does not include the second plate.

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Applicants respectfully submit that the objection is moot in view of the foregoing amendment to the specification and drawings.

Figs. 1(c), 2(c), and 3(c) show the oxidizer gas channels 2' and a gas inlet header 4'. Figs. 1(a), 2(a), and 3(a) show the heat medium channel as a plurality of concave groove-shaped gas channels 2. Figs. 1(b) and 2(b) show a heat medium inlet header 7A, a heat medium outlet header 7B, and a water outlet header 7C.

Figs. 1(c), 1(d), 2(c), 2(d), 3(c), and 3(d) depict the second plate mounted in a fuel cell stack.

Withdrawal of the objection to the drawings is, therefore, respectfully solicited.

Claim Rejection Under 35 U.S.C. § 112

Claims 35-36 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

The Examiner contends that it is unclear how the oxidant gas is used for the heat medium instead of the cooling water. The Examiner opines that the gas inlet header for the oxidant gas is disposed close to the outlet header 4, however, Reference No. 4 labels the gas inlet header, not the outlet header.

Applicants respectfully submit that the rejection is moot in view of the foregoing amendment to the specification and drawings.

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Figs. 1(a), 2(a), and 3(a), for example, show the gas inlet header 4 that is as an area where a reaction gas fuel gas is supplied in a distributed state from the gas supply manifold hole 3 and further supplied to the inlet of the gas channels 2.

The Examiner further contends that it is unclear what is meant by "on the other side."

Fig. 1(a) is a plan view of a first plate (plate 1) mounted in a fuel cell stack when viewed from the side of the fuel gas channels and Fig. 1(b) is a plan view of a first plate (plate 1) from the side of the water channels. Fig. 1(a) and Fig. 1(b) show different surfaces of plate 1.

Amended claim 35 recites, in part, "...a first plate having a first surface, a second surface at opposite side to the first surface."

The Office Action asserts that pg. 16, lines 16-17 state "water channels for supplying the cooling water are disposed in the other plate," however, the language is directed to the oxidant gas being the heat medium and not the cooling water. The Examiner concludes that "water channels" and "cooling water" are unclear and indefinite.

Figs. 1(b) and 2(b) shows a plurality of concave groove-shaped water channels 7B. The supplied water is distributed in water channels 7B from the water inlet header 7A and is supplied from top to bottom along the water channels 7B. Cooling water, which is supplied from the end portion of the fuel cell stack, is supplied and distributed to the water inlet header 7A in the plate 1 of each cell via the water supply manifold hole 7 aligned in the stacking direction of the fuel cell stack, and the water is further distributed from the water inlet header 7A to the water channels 7B. The water channels distribute cooling water, not heat medium.

Claims 35-36 are rejected under 35 U.S.C. § 112, second paragraph, as purportedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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The Office Action asserts that claim 35 recites, in part, "a plurality of fuel gas channels for distributing a fuel gas" and "a plurality of oxidant gas channels for distributing an oxidizer gas." The Examiner contends that claim 35 is directed to a single "fuel gas channel" and a single "oxidizer gas channel."

Applicants respectfully submit that the rejection is moot in view of the foregoing amendment of claims 35 and 36. Claim 35 recites, in part, "...a fuel gas outlet header connected with the plurality of fuel gas channels." The phrase "oxidizer gas channel" has been deleted.

Withdrawal of the foregoing rejections is respectfully requested.

Conclusion

In view of the above amendments and remarks, Applicants submit that this application should be allowed and the case passed to issue. If there are any questions regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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